

Images in Nephrology
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Constrictive calcific pericarditis masked by haemodialysis

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We admitted a maintenance haemodialysis patient with hypotension and weakness.

He had undergone cadaveric renal transplantation 19 years earlier. He had lost his kidney due to chronic allograft nephropathy 1 year after transplantation and returned to haemodialysis. He had hypotension, especially remarkable during haemodialysis. He also had hepatitis C but no cirrhosis. The patient denied a previous pulmonary tuberculosis. On physical examination, he was hypotensive (80/60 mmHg) but without peripheral oedema, neck vein distention or hepatomegaly. Heart sounds were weakly heard and there was no audible murmur or friction rub. Pericardial calcification was noticed on chest x-ray (Figure 1). Echocardiography could not visualize the pericardium or heart. Only coarse calcification of the pericardium from the subphrenic angle, but no further detail, was visible. Subsequently, we performed computerized tomography of the pericardium (Figure 2), which revealed a crescent-like calcification of the pericardium. There were

calcific plaques on the right lower lobe of the pulmonary pleura as well.

The presence of pericardial calcification strongly suggests constrictive pericarditis (CP) in patients with symptoms and signs of heart failure. A myriad of disease states can cause pericardial calcification. In the Western world, the most common cause is idiopathic. However, in the developing countries, tuberculosis remains an important cause. Plain chest radiographs can display calcification. Echocardiography may confirm the diagnosis, showing a thickened pericardium and calcification in some cases. However, normal echocardiography does not rule out CP. Transoesophageal echocardiography is more sensitive; however, the gold standard for diagnosis is invasive haemodynamic evaluation. Patients with CP may present with two types of complaints: those related to fluid overload, ranging from peripheral oedema to anasarca; and those related to a diminished cardiac output response to exertion, such as fatigability and dyspnoea. These symptoms may be masked in haemodialysis patients due to ultrafiltration and close volume regulation.

Conflict of interest statement. None declared.

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Fig. 1. Postero-anterior chest x-ray showing crescent-like pericardial calcification. Note also that calcification in the pleura overlying right lower lung.



Fig. 2. Coronal section of computerized tomography of the chest depicting crescent-like calcification of the pericardium encasing heart and right lower pleural calcification.